



<p>Name:</p> <p>Date:</p> <p>Tools: one Logifaces Set / 2-3 pairs or 4-6 students</p>	<p style="text-align: center;">539 - Angle of Planes</p> <div style="text-align: center;">  </div> <p style="text-align: center;">MATHS / TRIGONOMETRY</p>	<div style="text-align: center;">  <p>LOGIFACES METHODOLOGY</p> <p>Erasmus+</p> <p>STUDENT Logifaces</p> <p>2019-1-HU01-KA201-0612722019-1</p> </div>
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DESCRIPTION

In the 9 pcs or 16 pcs Set students choose those blocks whose vertical edges have different lengths (these are blocks 123 and 132) and calculate the angle between the planes of the base and top triangles.

Take a triangle

ABC on one of the two intersecting planes and let $A_1B_1C_1$ be the perpendicular projection of the triangle ABC to the other plane. If the angle of inclination of the two planes is α , then $\cos(\alpha) = \frac{A(A_1B_1C_1)}{A(ABC)}$, where $A(A_1B_1C_1)$ and $A(ABC)$ denote the areas of the triangles.

LEVEL 1 Using the given formula students calculate the angle between the planes of the base and top triangles in block 123 or 132.

LEVEL 2 Students calculate the angle between the planes of the base and top triangles in block 123 or 132 without knowing the formula, using their knowledge about angles between planes and the symmetry of the block.

LEVEL 3 Students prove the formula $\cos(\alpha) = \frac{A(A_1B_1C_1)}{A(ABC)}$.

SOLUTION(S)